

## Association of side effects to health-related quality of life: a population study of people living with HIV in England and Wales

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### BACKGROUND

Side effects are a major reason why people living with HIV (PLWH) may discontinue antiretroviral treatment (ART)<sup>1</sup>.

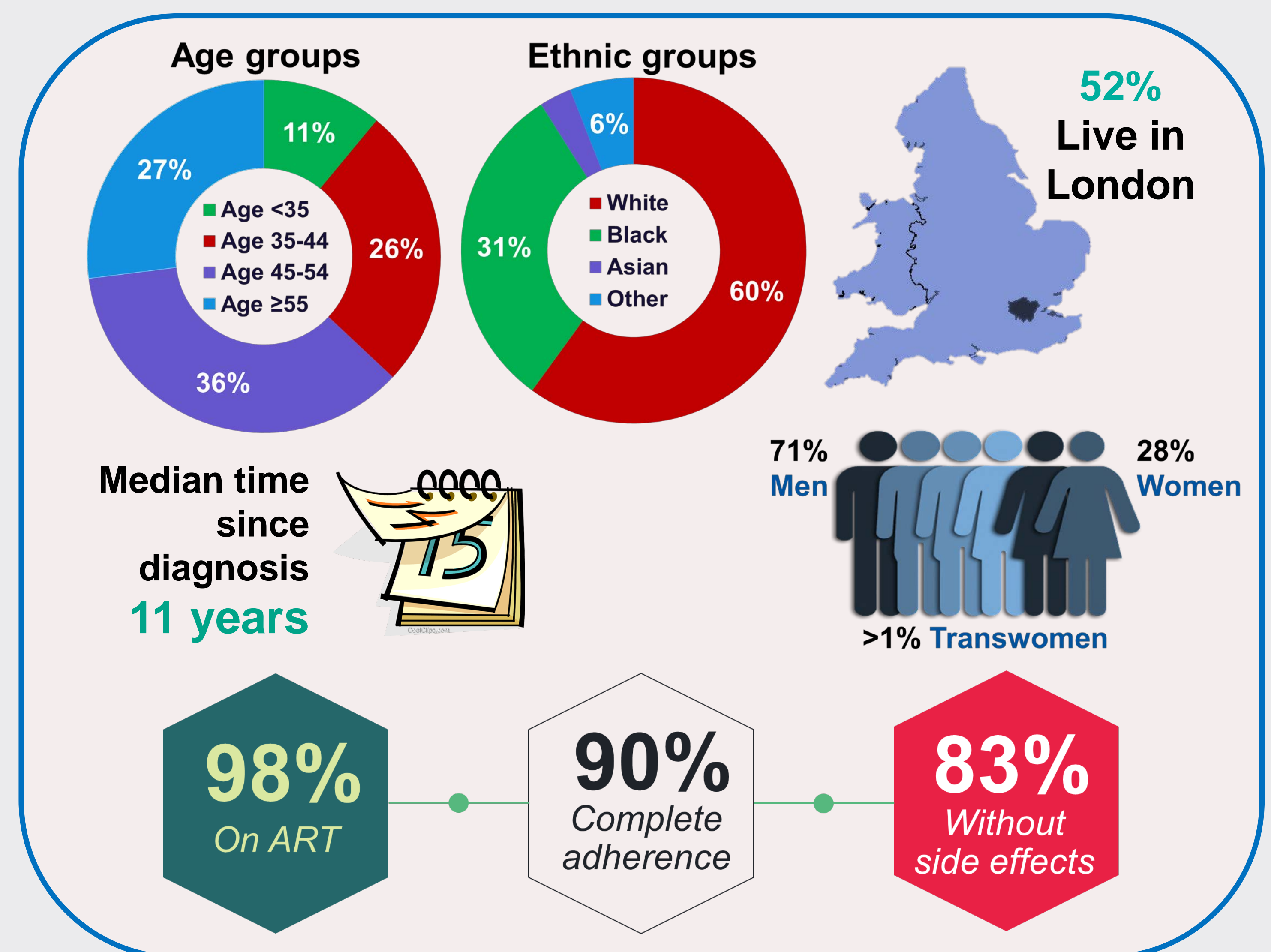
We present side effects reported in Positive Voices and examine their association with health-related quality of life (HRQoL), as well as other sociodemographic factors.

### METHODS

Positive Voices is a cross-sectional, probability survey of people living with HIV. Using the PHE HIV surveillance database as a national sampling frame, a representative sample of people attending 73 HIV clinics in England and Wales was invited to participate between February and September 2017.

**4,422 people took part** (51% response rate). The survey included questions on self-reported side effects (in the previous 4 weeks). Data on HRQoL was collected using the generic Euroqol (EQ-5D-5L) instrument which included five questions on the following: **mobility** (walking); **self-care** (washing and dressing); **usual activities** (e.g. housework, leisure, etc); **pain and discomfort**; and **anxiety and depression**. Utility values were calculated ranging from 0 to 1, (0 represents death and 1 the best possible health). Multivariable regression analysis was carried out to explore the relationship between side effects and other factors on HRQoL.

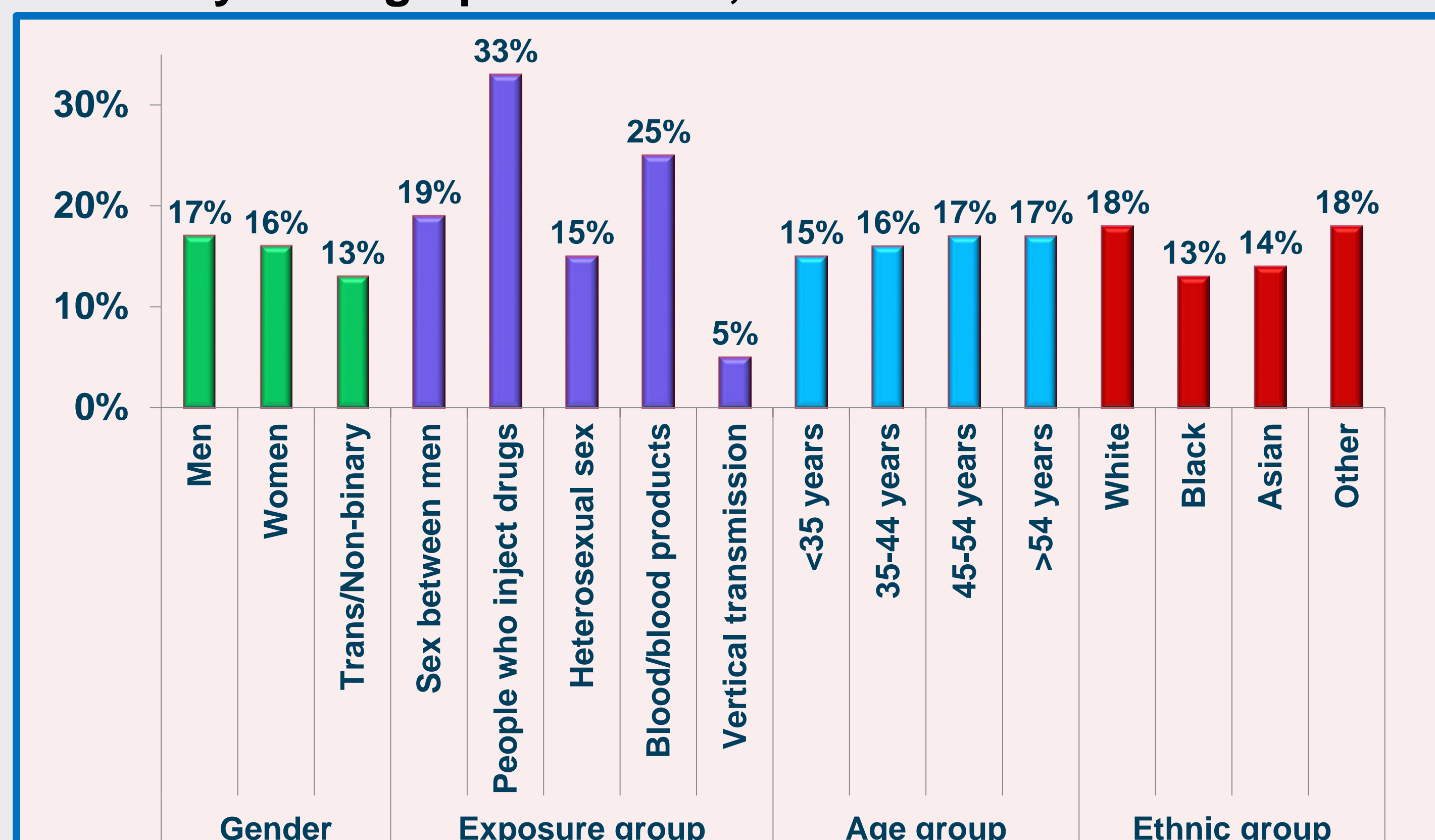
### PARTICIPANT DEMOGRAPHICS (n=4,422)



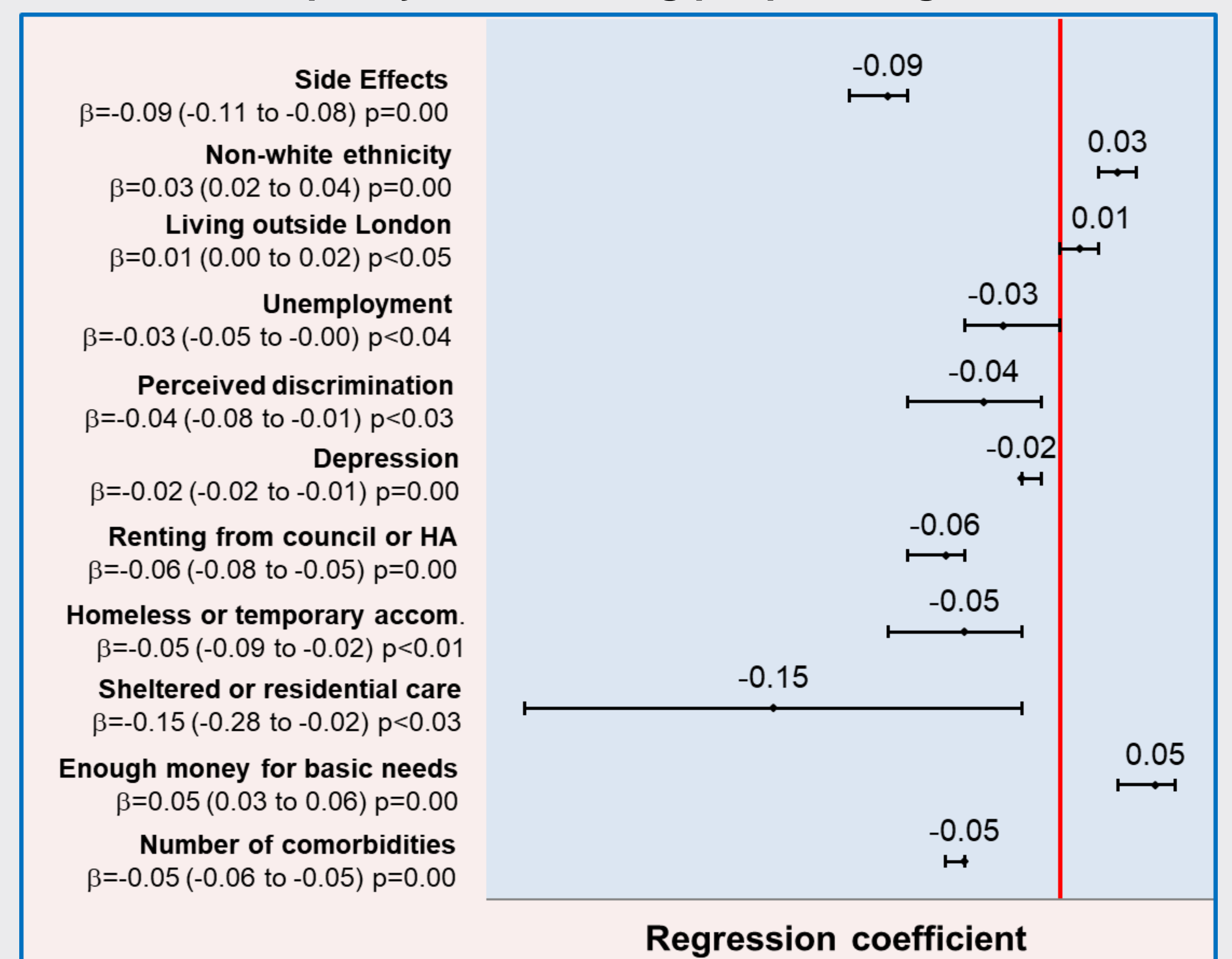
### RESULTS

- One in six participants (17%) reported ART side-effects in the previous 4 weeks.
- This varied greatly according to demographic subset (**Figure 1**). The highest prevalence of side effects was in people who were infected through injected drug use (33%) and through blood/blood products (25%) and lowest in those infected through vertical transmission (5%).
- HRQoL utility score among those who reported ART side-effects was 0.67, compared to 0.86 in those who had not reported side effects.
- In multivariable regression, experiencing side effects was the strongest predictor of poor quality of life (**Figure 2**).
- Quality of life was also negatively associated with unemployment, perceived discrimination in healthcare in the past year, depression, renting from the council or housing association, homelessness, and insecure housing (e.g. temporary/sheltered housing), and number of diagnosed co-morbidities.
- Quality of life was significantly better among those of non-white ethnicity, those with financial security and those who reside outside London.

**Figure 1: Proportion of participants reporting ART side effects by demographic subset, 2017**



**Figure 2: Multivariable regression of factors associated with health-related quality of life among people living with HIV, 2017**



Results are given as regression coefficient  $\beta$  (95% confidence interval boundaries) and  $p$  value. The sign of a regression coefficient tells you whether there is a positive or negative correlation between each independent variable and the dependent variable, HRQoL.

### DISCUSSION

- In this survey, 17% of those people living with HIV were experiencing side effects and this was strongly associated with lower HRQoL.
- Other predictors for poor quality of life included many social and health factors, including co-morbidity burden, poor mental health, and alcohol consumption, as well as urban residence, low-income or insecure housing, financial insecurity, unemployment and stigma.
- Interventions to improve management of overall health and social situations for PLWH may reduce experience of ART side effects and improve adherence. We recommend a target of 90% of people living with HIV to be free from ART side effects.

1. Al-Dakkak, I., et al. (2013) The impact of specific HIV treatment-related adverse events on adherence to antiretroviral therapy: A systematic review and meta-analysis. *AIDS Care* 2013, 25 (4): 400-14.